

Spatial Conductivity Measurements on High T_c Superconducting Films

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High T_c superconducting thin and thick films have potential applications in future NASA flight projects. In anticipation of film use, the Materials Branch is developing a nondestructive, non-contact method of measuring the spatial variation of conductivity across a film sample. This method uses a computer-controlled, X-Y positioning table to scan a conventional eddy current probe across the surface of a film. The induced changes in impedance caused by variations in film conductivity are recorded during the scanning process. Ultimately the two-dimensional data set is displayed using imaging equipment on a personal computer.